

Michigan State University Copy Paper Study

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RD491 Semester Project

Introduction

For my semester project in RD490, I decided to focus on white copy paper, particularly at Michigan State University. It proved to be difficult to categorize all aspects of paper consumption into clear sections, but I have tried to organize my results as efficiently as possible.

I chose this topic for a number of reasons. I am concerned about many environmental issues, but I have a particular passion for the wilderness and natural areas. This past summer I spent time in an old-growth forest and learned a little about the logging industry. Staying in the forest was one of the most spiritual experiences I've had; I felt very connected to the earth. When I found out that so many forests are destroyed for paper, when there are so many alternatives, I was disgusted. I wanted to learn more about how paper consumption can be reduced and changed. Additionally, I help to coordinate an environmental activist group on MSU's campus, Eco. Recycled paper is an issue that the group has been concerned about for a couple of years and I thought some further research could assist the group's efforts.

I think decisions about paper usage are a very large component of sustainability. As I mention later in this report, the paper industry makes a very significant impact on the world. Paper is something that most people use for many different purposes in their daily lives, and most people do not even consider where that paper is coming from or where it is going after they use it. If everyone was just a little more conscious about these issues, many positive changes could be made in making our lives more sustainable.

Consumption

According to Penn State University, although technologies to reduce paper usage (i.e. electronic mail, digital storage, etc) are at an all-time high, paper usage has doubled in the United States since the mid-1970's (Penn State, 20). This is a significant problem because in the U.S. the pulp and paper industry is the third largest consumer of chlorine, the second largest consumer of energy, and the largest consumer of water per ton of product (Penn State, 20). Additionally, even though paper has only been made from wood pulp since the 1850's, nearly half of the trees now cut in North America go towards paper production, and U.S. citizens pay numerous subsidies to maintain the virgin paper industry through forest services (Conservatree). The United States uses more paper than any other country, 67 million tons per year. This equals over 600 pounds of paper per person in the U.S. (Earth Care). There are incredible environmental concerns that are associated with this level of consumption.

Reducing Negative Effects

There are many options to reduce the negative impacts of consuming vast quantities of paper. Some of these options include reducing consumption, using paper made from post-consumer waste, making paper from agricultural by-products, making paper that is pre-consumer recycled and deinked, and making paper from sustainably harvested virgin fibers. The most ideal situation involves reducing paper consumption. This involves no extra materials or processes. Penn State presented some simple ways to dramatically reduce paper usage that is summarized in the following chart:

<u>From</u>	<u>To</u>
12 point font	10 point font
1.25" margins	.75" margins
double spaced	single spaced
one sided	double sided
100 page document	15 page document

(Penn State, 20).

Another simple behavioral change that can help reduce the negative effects of paper usage is to purchase paper that is made from post consumer waste. Switching to recycled paper reduces energy consumption by 60%. Also, using one ton of recycled paper instead of virgin paper equals sixty pounds (or 95%) less air pollution, seventeen more trees, 7,000 more gallons of water, and 3.3 more cubic yards of landfill space available (National Wildlife Federation, Conservatree).

Michigan State University's Impact

Universities are large consumers of white copy paper. University Stores is a large provider for office supplies and other equipment for MSU departments. Various departments on MSU's campus purchased a total of 143,823,000 sheets of white office paper from University Stores in 2000. The majority of this paper bought had no recycled content. In 2000, 26% of the paper purchased from University Stores was thirty percent post-consumer recycled content and only 6% was 100 percent post-consumer recycled content. In 2001, 25% of the paper was thirty percent recycled and 10% was 100 percent recycled (Grice, email).

Although there are plans for more papers, there are currently five types of letter sized white copy paper available through University Stores (Grice, telephone). These papers, their descriptions, prices (as of 01/04/03), and the states they are produced in are summarized below. Unfortunately, I had trouble verifying the exact location of production.

<u>Brand</u>	<u>Description</u>	<u>Price/ream</u>	<u>State of Production</u>
Hammermill	virgin	\$2.76	Alabama
Hammermill	virgin; acid-free	\$3.24	Alabama
Great White	30% post-consumer recycled; acid-free	\$2.77	Alabama
Boise	100% post-consumer recycled; chlorine-free	\$3.05	Minnesota
Badger	100% post-consumer; recycled; chlorine-free	\$3.12	Minnesota

(University Stores).

Michigan State University has two major recycling programs. A company called Waste Management picks up recyclable goods from the residence halls on campus. This company has facilities around Michigan, including recycling facilities in Detroit, Saginaw, and Grand Rapids and a local landfill site in Williamston. Materials picked up from the residence halls are taken to a Recycle America facility in Grand Rapids (Bonifer). There the materials are separated, sorted, and baled and eventually sold to paper mills in the area where they can be turned into a number of new paper products, from printing paper to tissue paper (Byrnes).

Waste Management is a large corporation with sometimes questionable practices. I was under the impression that if the market for recycling is not doing well, Waste Management often will just dump recyclable materials into its landfills. It is also difficult to receive information about where recycled goods are shipped (personal experience). However, after recently contacting two different Waste Management representatives, I was told that recycled materials are never—at least not in the eleven years that representative Phil Bonifer has been with the company—taken to a landfill. According to Bonifer, when the market for recycled goods is down, the company is barely able to sustain itself and the service charge required for recycle pickup is what pays for transportation and processing costs (Bonifer).

MSU also maintains its own recycling and waste management department for other university buildings. Pete Pasterz manages this program. The department ships trash to a Granger landfill in Lansing. A section of the department called MSU Recycles sells recycled paper to Royal Oak Paper and Metal Company. This company then sells the baled paper to mills all over the world where they are used to make new paper products (Pasterz).

Various Efforts to Reduce Negative Impacts

Penn State University released a report in 2001 titled The Mueller Report: Moving Beyond Sustainability Indicators to Sustainability Action at Penn State. The goal of the committee working on the Mueller Report was to cut the Mueller Biology Building's ecological footprint in half, while saving the university \$45,000 and "creating healthier working conditions for all building occupants" (Penn State, 2). Part of this report focused on paper usage on campus. The goal of the authors was to purchase recycled paper, use the paper to its fullest, and recycle the paper again after its use. They stated that

they could reduce paper usage from one million sheets per year to 310,000 sheets per year this way (Penn State, 21).

Penn State also released a set of Mueller Policy Papers with specific suggestions. In Mueller Policy Paper #1, the authors recommended that Penn State make the default settings on University computers to .75". This would make 19% more of the paper available and save the university \$120,000 per year. To implement this new policy, the authors recommended that the university set all computer lab software to .75" defaults, send a memo out to all departments, and have President Spanier write to other colleges in Pennsylvania and to other Big 10 universities to encourage them to consider similar policies that would reduce their paper consumption as well (Mueller Policy Paper).

Other universities have also made efforts to encourage their universities to purchase 100% post consumer waste recycled paper. The problem with this is that many universities have systems in place so that there can be no university-wide choice made on many purchasing decisions. Students in some schools, including Cornell and MSU, have started from the bottom up to encourage different purchasing decisions.

At Cornell, a forest watch group has been working on what they call a "Tree-Free Initiative" for over a year. They are encouraging departments to purchase the Boise or Badger papers that are mentioned above and available from University Stores at MSU. They have gotten petitions signed by over 1,000 students, have had three resolutions passed by campus assemblies, and have held three different seminars about their campaign. They seem to have success in convincing departments and individuals to switch over to the recycled paper (Seaba).

A similar campaign has been going on at Michigan State University for over two years now with an environmental activist group called Eco. The campaign started with students volunteering to contact their academic departments and encouraging them to purchase the Badger Envirographic 100 paper available through University Stores. The students provided the departments with details about the paper and also details about the environmental degradation caused by over-consumption of paper products. The main library at MSU was already using the Badger paper, and this helped make a convincing argument. A few departments quickly made the decision to start purchasing the recycled paper. Some departments later claimed that their machines could not handle the paper, but other departments have stuck with their decision to switch to the recycled paper. Eco was also able to convince the administration to send out an email to all departments encouraging them to purchase the paper. Further, University Stores now features a special "Recycled Goods" section in their catalog that makes purchasing recycled products easier. Students from Eco continue to randomly contact departments and educate them about recycled paper.

Industry is also starting to take note of all of the concern about paper consumption. National environmental groups such as ForestEthics, Dogwood Alliance, and Free the Planet targeted the office supply chain Staples for two years. As the nation's largest office supply chain, if Staples was willing to stop cutting old-growth trees and start selling more recycled paper, environmental activists around the country hoped that other stores would do the same and that people would start to recognize what an important issue paper consumption is. The campaign was a grass-roots effort that included "over 600 demonstrations, nearly 35 banners dropped on storefronts, 21 arrests in acts of civil disobedience, creative street theater, over 15,000 postcards, thousands of phone calls to the corporate headquarters and regional offices, hundreds of letters from concerned citizens, 75 children's drawings, coverage in more than 10 national media outlets and over 50 local media outlets, a shareholder's resolution, and flying the CEO over clearcuts on the Cumberland Plateau in Tennessee" (Victory). A day before the 5th National Day of Action against Staples on Nov 12, 2002, the company agreed to drastically alter its policies concerning paper. This includes selling paper that has an average of thirty percent post-consumer recycled content, stop purchasing paper products from endangered forests, use only recycled paper for all internal operations by the end of 2003, and create an environmental affairs division that reports annually on the company's environmental progress (Holladay). While much more could be done, this was seen as a major victory by all of those working so hard on the campaign.

What Could MSU Do?

By conserving paper, any institution or individual could easily save enough money to fund purchasing recycled paper or probably some papers made from agricultural by-products and sustainably harvested fibers. For example, I will analyze reducing paper consumption at MSU per Penn State's report that claims that a 100 page document can be reduced to a 15 page document as outlined in the chart above.

About 145,000,000 sheets of paper are bought from University Stores annually at Michigan State University. That is about 290,000 reams of paper a year. The most expensive recycled paper is around \$3.12 per ream (Badger) and the least expensive non-recycled paper is \$2.76 per ream (Hammermill). It would cost roughly \$104,400 per year if every department that purchases from University Stores were to switch over to the Badger recycled paper if they continued to consume at the

same level. However, if the university was able to reduce their paper consumption as outlined in the chart, they would only need to purchase 43,500 reams. We could purchase the most expensive recycled paper at this level and still save \$664,680! (See attached calculations sheet)

Obviously, some of the recommendations (such as all single spaced documents) are unrealistic changes to expect everyone to be willing to make. However, even something as simple as changing margins from one inch to three quarters of an inch can make a large impact. This can reduce a 100 page document to 81 pages (Penn State, 20). Making this change could reduce the amount of paper purchased to 234,900 reams. MSU could still purchase the most expensive recycled paper available from University Stores at this level and save \$67,512 (See attached calculations sheet).

These economic arguments for switching over to the 100% post consumer waste recycled Badger paper do not even take into account the number of trees saved, the amount of greenhouse gas emissions reduced, the landfill space saved, the water saved, the energy saved in the production, plus the benefits of having the paper shipped from Minnesota, which is much closer than Alabama. Further, this is just one way that MSU could easily reduce its impact.

Further Questions for Research

This report was much more basic than I was hoping for. I had not realized how time consuming research can be. It would be interesting to come up with some new, creative ideas for MSU to reduce the amount of paper it consumes. There is also the issue of departments making their own decisions about paper usage. Anytime a new policy is implemented there will be some discussion about loss of freedom. It would be interesting to research why some products on campus, such as toilet paper, are all ordered from the same company by one department and then delivered to all other departments. Have such products always been ordered in this way? How was it decided that recycled toilet paper could be bought for all university buildings at MSU? What would happen if one department or building disagreed with this decision and wanted to make its own decision about purchasing such products? It would be interesting to investigate the psychology of purchasing decisions in general.

I would have also liked to done more research on individual paper mills or certain paper manufacturers. I had trouble contacting any paper mills in Michigan, although I know that they exist. I obtained some information about the Michigan Pulp and Paper Environmental Council. This group represents about 75% of all paper and pulp production in Michigan. The group is made up of thirteen different mills (MPPEC). Unfortunately, I learned of this effort late into the project and did not hear back from MPPEC in time to include in this report. I would like to research procedures at various paper mills and recycling plants, particularly in Michigan. I would also like to learn a lot more about the specifics of paper manufacturing from different products.

Conclusions

As is the case with any issue, there are a variety of concerns to consider when analyzing paper usage. Sometimes people working towards change get so wrapped up in one aspect of that change that they ignore other concerns. Everything we do has an impact on the world. When considering the consequences or ethics of every decision, important factors to consider are the environmental, social, and personal impact your decision is going to make. For instance, when buying paper, one should consider what type of material was used to make the paper, how that material was obtained, how the materials and paper were transported, the energy that was put into the whole process, the treatment of the people—from the logger to the clerk at the store—who put their energy into the paper, the financial cost of purchasing the paper, and the convenience of purchasing the paper, just to name a few concerns. Unfortunately, there is not a simple formula to follow and it is easy to get overwhelmed. However, we must each think carefully about the marks we are making on each other and on the planet in order to sustain life in our universal home.

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